

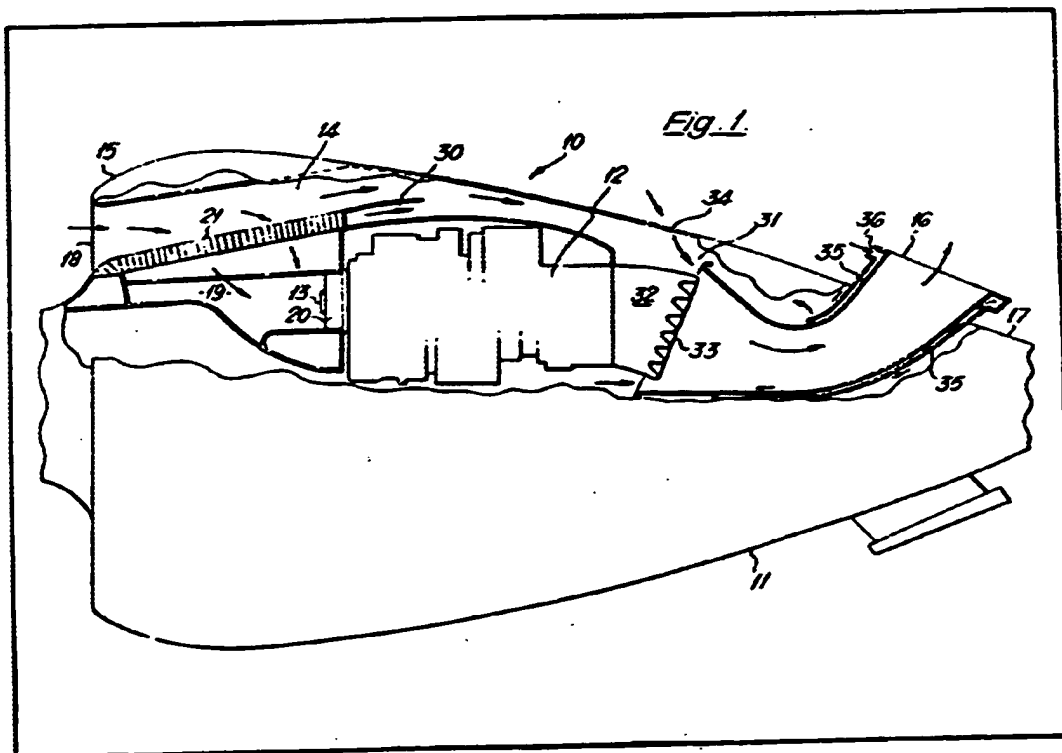
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(54) Gas Turbine Engine Air Intakes
 (57) A gas turbine engine cowl (10) suitable for a helicopter contains a gas turbine engine (12), and comprises a vortex tube separator panel (21) for the purpose of separating water droplets and particulate material from engine inlet air. The vortex tube separator panel (21) is disposed between a primary duct (14) extending the length of the cowl (10) and a secondary duct 19 which leads to the engine 12. Air passing through the duct (14) supplies air for passing through the panel (21) to the engine inlet (20) as well as

maintaining a flow of air transverse to the panel (21). The air flow transverse to the panel (21) ensures that blockage of the panel (21) by ice is substantially reduced or eliminated. Under forward flight conditions, ram air passes through the duct (14) but during hovering, the air flow through the duct (14) is induced by an ejector (31) powered by the exhaust gas discharge from the engine (12). The portion of the air flow through the duct (14) which does not enter the gas turbine engine (12) is utilised in the cooling of the engine exhaust efflux in order to reduce the amount of infra-red radiation emitted thereby.

The drawing(s) originally filed were informal and the print here reproduced is taken from a later filed formal copy.



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